Genetical Research

EDITORIAL BOARD
HIROSHI AKASHI NICK H. BARTON WILLIAM D. BEAVIS PIERRE CAPY
BRIAN CHARLESWORTH RICHARD FRANKHAM MICHEL GEORGES
GREG GIBSON JODY HEY IAN J. JACKSON MARY F. LYON
THOMAS MITCHELL-OLDS H. ALLEN ORR LINDA PARTRIDGE
PATRICK PHILLIPS FRANCESCO SALAMINI J. BRUCE WALSH
BRUCE S. WEIR

EXECUTIVE EDITORS
WILLIAM G. HILL
DAVID J. FINNEGAN TRUDY F. C. MACKAY

BOOK REVIEW EDITOR
JEFF BOND

REVIEW EDITOR
GREG GIBSON

FOUNDING EDITOR
ERIC C. REEVE

Volume 77 2001

CAMBRIDGE
UNIVERSITY PRESS

Published by
The Press Syndicate of the University of Cambridge

The Edinburgh Building, Cambridge CB2 2RU, United Kingdom
40 West 20th Street, New York, NY 10011–4211, USA
10 Stamford Road, Oakleigh, VIC 3166, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

© Cambridge University Press, 2001

Printed in Great Britain at the University Press, Cambridge

Contents

No. 1 (February 2001)

REVIEW

ANDOLFATTO, P., DEPAULIS, F. *and* NAVARRO, A. Inversion polymorphisms and nucleotide variability in *Drosophila* 1

RESEARCH PAPERS

MABLE, B. K. *and* OTTO, S. P. Masking and purging mutations following EMS treatment in haploid, diploid and tetraploid yeast (*Saccharomyces cerevisiae*) 9

KEEGAN, J., SCHMERER, M., RING, B. *and* GARZA, D. The 62E early-late puff of *Drosophila* contains D-spinophilin, an ecdysone-inducible PDZ-domain protein dynamically expressed during metamorphosis 27

GÜNDÜZ, İ., LÓPEZ-FUSTER, M. J., VENTURA, J. *and* SEARLE, J. B. Clinal analysis of a chromosomal hybrid zone in the house mouse 41

FRY, J. D. Rapid mutational declines of viability in *Drosophila* 53

HANSEN, M., KRAFT, T., GANESTAM, S., SÄLL, T. *and* NILSSON, N.-O. Linkage disequilibrium mapping of the bolting gene in sea beet using AFLP markers 61

VITALIS, R. *and* COUVET, D. Two-locus identity probabilities and identity disequilibrium in a partially selfing subdivided population 67

SORENSEN, D., FERNANDO, R. *and* GIANOLA, D. Inferring the trajectory of genetic variance in the course of artificial selection 83

HACKETT, C. A., MEYER, R. C. *and* THOMAS, W. T. B. Multi-trait QTL mapping in barley using multivariate regression 95

WAYNE, M. L., HACKETT, J. B., DILDA, C. L., NUZHDIN, S. V., PASYUKOVA, E. G. *and* MACKAY, T. F. C. Quantitative trait locus mapping of fitness-related traits in *Drosophila melanogaster* 107

BOOK REVIEWS

Molecular Evolution and Phylogenetics. *M. Nei and S. Kumar* A. Rokas & D. Charlesworth 117

A Passion for DNA. Genes, Genomes and Society. *J. D. Watson* R. P. Ambler 119

Abraham Lincoln's DNA and other adventures in Genetics. *P. R. Reilly* J. Bond 120

BOOKS RECEIVED 121

No. 2 (April 2001)

REVIEW

KERR, M. K. *and* CHURCHILL, G. A. Statistical design and the analysis of gene expression microarray data 123

RESEARCH PAPERS

BEEKMAN, M., LAKENBERG, N., CHERNY, S. S., DE KNIJFF, P., KLUFT, C. C., VAN OMMEN, G.-J. B., VOGLER, G. P., FRANTS, R. R., BOOMSMA, D. I. *and* SLAGBOOM, P. E. A powerful and rapid approach to human genome scanning using small quantities of genomic DNA 129

LADEVEZE, V., AULARD, S., CHAMINADE, N., BIEMONT, C., PERIQUET, G. *and* LEMEUNIER, F. Dynamics of the *hobo* transposable element in the transgenic lines of *Drosophila melanogaster* 135

PRZEWORSKI, M. *and* WALL, J. D. Why is there so little intragenic linkage disequilibrium in humans? 143

CHARLESWORTH, B. The effect of life-history and mode of inheritance on neutral genetic variability 153

SACCHERI, I. J., NICHOLS, R. A. *and* BRAKEFIELD, P. M. Effects of bottlenecks on quantitative genetic variation in the butterfly *bicyclus anynana* 167

OKUNO, S., WATANABE, T. K., ONO, T., OGA, K., MIZOGUCHI-MIYAKITA, A., YAMASAKI, Y., GOTO, Y., SHINOMIYA, H., MOMOTA, H., MIYAO, H., HAYASHI, I., ASAI, T., SUZUKI, M., HARADA, Y., HISHIGAKI, H., WAKITANI, S., TAKAGI, T., NAKAMURA, Y. *and* TANIGAMI, A. Effects of *Dmo1* on obesity, dyslipidaemia and hyperglycaemia in the Otsuka Long Evans Tokushima Fatty strain 183

LIU, X., OLIVER, F., BROWN, S. D. M., DENNY, P. *and* KEIGHTLEY, P. D. High-resolution quantitative trait locus mapping for body weight in mice by recombinant progeny testing 191

NAGAMINE, Y. *and* HALEY, C. S. Using the mixed model for interval mapping of quantitative trait loci in outbred line crosses 199

BOOK REVIEWS

Neurospora – contributions of a model organism *R. H. Davis* J. Fincham 209

Dorothy Hodgkin – a Life. *G. Ferry* L. Sawyer 210

BOOKS RECEIVED 211

No. 3 (June 2001)

REVIEW

BUCKLER, E. S., THORNSBERRY, J. M. *and* KRESOVICH, S. Molecular diversity, structure and domestication of grasses 213

RESEARCH PAPERS

WALBOT, V. Imprinting of *R-r*, paramutation of *B-I* and *Pl*, and epigenetic silencing of *MuDR/Mu* transposons in *Zea mays* L. are coordinately affected by inbred background 219

GARCÍA GUERREIRO, M. P. *and* FONTDEVILA, A. Chromosomal distribution of the transposable elements *Osvaldo* and *blanco* in original and colonizer populations of *Drosophila buzzatii* 227

GROSJEAN, Y., BALAKIREVA, M., DARTEVELLE, L. *and* FERVEUR, J.-F. PGal4 excision reveals the pleiotropic effects of *Voila*, a *Drosophila* locus that affects development and courtship behaviour 239

SLOANE, M. A., SUNNUCKS, P., WILSON, A. C. C. *and* HALES, D. F. Microsatellite isolation, linkage group identification and determination of recombination frequency in the peach-potato aphid, *Myzus persicae* (Sulzer) (Hemiptera: Aphididae) 251

MORGAN, M. T. Transposable element number in mixed mating populations 261

HASTINGS, I. M. Reproductive compensation and human genetic disease 277

SONESSON, A. K. *and* MEUWISSEN, T. H. E. Minimization of rate of inbreeding for small populations with overlapping generations 285

BOOK REVIEW

The Coiled Spring – How Life Begins. *Ethan Bier* M. Bownes 293

BOOKS RECEIVED 295

ERRATA (Sorensen et al., Volume 77/1, February 2001) 297

INDEX 299